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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,052	12/15/2003	Adrian P. Stephens	884.B49US1	4028

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EXAMINER	
QURESHI, AFSAR M	

ART UNIT	PAPER NUMBER
2416	

MAIL DATE	DELIVERY MODE
12/02/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/736,052	STEPHENS, ADRIAN P.	
	Examiner	Art Unit	
	AFSAR M. QURESHI	2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 August 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-11 and 13-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-11,13-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is responsive to request for Appeal Brief filed on 8/26/2008.

2. *Reopening of Prosecution After Appeal Brief or Reply Brief*

In view of the Appeal Brief filed on 8/26/2008, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 11 – 14 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 11 recites “an article comprising a machine-accessible medium having associated information…” is non-statutory since term ‘machine' includes every mechanical device or combination of mechanical device or combination of mechanical powers and devices but not limited to computer readable medium , Specification (figure 4, [0029]).

In order to avoid above rejection, Examiner suggests “an article comprising a machine-accessible medium” be replaced with -- a computer readable medium --.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 2, 4-7, 9-11, 13, 15-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP0928084 A2 (MITSUBISHI DENKI KABUSHIKI KAISHA (Inventors: Poon et al.) ('Poon' hereinafter) in view Tzannes (US 6,498,808)

Claims 1, 2, 11, 15 and 19. Poon discloses transmitter side 200 and receiver side 202 (fig. 12) wherein the receiver detects the modulation type (*selected data type*) of the incoming signal and formats (*training the receiver*) into a selected data type. This is done by a host processor 74 (*access point, see [0038])* on a priori knowledge of the modulation type (see col. 3, lines 1-10, col. 5, lines 10-18 and col. 8, lines 9-12). In another embodiment, on the transmission side, a header word is inserted (*self definition information)* where a modulation type flag is used on the transmission which are detected at the receiver side and configures the demodulation logic circuit (col. 3, lines 3035; col. 4, lines 42-47; col. 9, lines 10-20 and col. 11, lines 39-56).

Poon does not specifically disclose the claimed features, as implied by the Applicant, "determining whether a state capable of interpreting a selected data type has been maintained by the receiver (claims 1, 11, 15 and 19).

Tzannes, in the same field of endeavor, discloses transmitter and receiver synchronizing and exchanging the information in two protocols. In one protocol (normal seamless rate adaptive, NSRA) the receiver determines a state capable of interpreting selected data type by sending in a Normal Seamless Rate Adaptive (NSRA) request to the transmitter. The transmitter uses sync symbol to signal the receiver and sends to receiver the selected data type (see col. 13, lines 13-61, Fig. 4). The Examiner interprets the normal seamless rate adaptive is maintained when it is determined that receiver maintains a state capable of interpreting a selected data type and transmitter need not to send data with self definition.

On the other hand if the receiver does not maintain the state capable of interpreting the selected data type, the receiver sends a 'SRA Deny' message to the transmitter with new bit allocation table (BAT). The transmitter then sends a signal using new BAT (self definition). In turn receiver sends NSRA grant and transmitter sends data using new table (see col. 13, lines 62 through col. 14, lines 1-32, fig. 5).

Therefore it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify Poon by utilizing single rate adaptive multicarrier technique using modulation BAT in a multicarrier system, as taught by Tzannes either by reconfiguring receiver/transceiver and/or implementing software. This will provide a seamless multicarrier modulation/demodulation system without duplicating demodulator and technical complexity.

As to claims 4-7. Poon discloses stripping off the header and providing flags in the header (see col. 12, [0061] fig. 12) each modulation type is predetermined between transmitter and receiver so that a receiver can enter the state where it can interpret the selected data type. All channels between the transmitter and the receiver are predetermined, for example, VSB for channel 1, QAM for channel 2, QPSK for channel 3, DMT for channel 4, CDMA for channel 5, TDMA for channel 6. It would have been readily clear to one skilled in the art that while all the 6 channels are tuned into receiving information from the transmitter the receiver will not be available to receive modulation format from another transceiver.

As to claims 9, 10, 13, 17, 18, 22. As to claims 9, 10, 13, 17, 18 and 22, in addition to limitations discussed in the rejection of claim 1 above, Poon also discloses self definition information, such as modulations, is included in the packet header indicative of modulation format, rate, code rate and other parameters wherein the data is sent in series of modulated packets (see on page 7, [0052] –[0057]). As to claim 13, Although not specifically disclosed that a software is used in determining the sate capable of interpreting the selected data type, Poon discloses utilizing an algorithm, for sending a selected data with or without priori knowledge of modulation as discussed above (see col. 12, lines 5-12 or page 7, [0053]), nonetheless, Tzannes clearly discloses utilizing software to implement the invention (see Abstract). As to the limitation of determining that no information will be communicated to the receiver except by the access point. As discussed in the rejection of claims 4-7 above, all the channels of the receiver are trained to the transmitter sending modulated information.

It would have been obvious to one of ordinary skill in the art, at the time of invention, to be able to incorporate software application, as in Tzannes, to implement said algorithm wherein universal modem, disclosed by Poon, is software configurable (see [0050] - [0051]). Note that an advantage of software implementation is flexibility.

As to claims 16, 20 and 21. Poon discloses configuration 'RAM 80' (fig. 5A), receive side that specifies the appropriate demodulation mode to be downloaded (see col. 9, [0038], lines 16-20. Also, in claim 20, Poon/Tzannes do not specifically disclose an omnidirectional antenna, however, Poon discloses that the universal modem, which can be software reconfigurable, has an input either a terrestrial signal or

a *satellite signal* each with its own unique modulation format (see col. 7, [0031]. In a satellite system, in order to receive a satellite signal an antenna is required. In the above references signals are directed to a receiver in vertical pattern, therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to be able to utilize an antenna whose pattern is omnidirectional in azimuth (known and old).

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over combined invention of Poon and Tzannes, as applied to claim 1 above, and further in view of ANSI/IEEE 1999 standard.

As to claim 8. Poon/Tzannes do not specifically disclose utilizing 802.11 protocols. However, 802.11 protocols are known and old (ANSI/IEEE 1999) wherein modulation/demodulation, encoding, decoding and synchronization commensurate with IEEE 802.11 (and its derivatives 802.11a, 802.11b and 802.11g) OFDM traffic. For example, in 802.11 protocols, once a packet is correctly received by a receiver, it must remain off for an entire frame which causes stations that are outside an intended transmission range (*prohibits communication with a transmitter other than a training transmitter*) to remain idle during frame transmission. Examiner takes Official Notice.

6. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Poon and Tzannes as applied to claim 1 above, and further in view of Kobayashi (US 2004/0218627 A1).

Poon/Tzannes disclose inserting flags in setting up universal modem, these flags are detected at the receiver side that in turn help select the channel to which the

receiver is tuned to (training the receiver), however Poon/Tzannes do not specifically disclose training session as claimed herein.]). However, Kobayashi discloses performing a training session by sending a training pattern over a link to the receiver (see page 10, [0107]) where a processor controls the release of the training session (see fig. 25, page 9, [0101].

It would have been obvious to one of ordinary skill in the art, at the time of instant invention, to be able to integrate process for performing training session, taught by Kobayashi to establish a stable link prior to communication between said transmitter and the trained receiver.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AFSAR M. QURESHI whose telephone number is (571)272-3178. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (571) 272 7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William Trost/
Supervisory Patent Examiner, Art Unit 2416

/Afsar M Qureshi/
Primary Examiner
Art Unit 2416

11/20/2008